

What is claimed is:

1. A choke for suppressing radio-frequency interference of a brush-type motor, the choke comprising:

a single wire having a portion wound about a coil axis to define a plurality of coils including two outermost coils,

an attaching structure extending from each outermost coil and being generally transverse with respect to the coil axis, each attaching structure being constructed and arranged to be inserted through an associated opening in a supporting structure and to be bent so as secure the choke to the supporting structure, and

an elongated end portion extending from each attaching structure so as to be spaced from and generally parallel to the coil axis, the elongated end portions extending in opposite directions, one of the elongated end portions being constructed and arranged to be directly electrically connected to an electrical connector of a motor and the other of the elongated end portions being constructed and arranged to be in electrical connection with a brush of the motor.

2. The choke of claim 1, wherein a center axis of each elongated end portions is disposed on a common plane.

3. The choke of claim 2, wherein at least one of the attaching

structures includes a first portion extending transversely from an associated elongated end portion and generally along the common plane, a second portion extending downwardly and transversely with respect to the first portion, a third portion extending from the second portion so as to be generally parallel with the first portion, and a fourth portion extending upwardly from the third portion to an associated outermost coil, the fourth portion being generally parallel with respect to the second portion.

4. The choke of claim 2, wherein at least one of the attaching structures includes a first portion extending downwardly and transversely with respect to an associated elongated end portion, a second portion extending transversely from the first portion and a third portion extending upwardly from the second portion to an associated outermost coil, the third portion being generally parallel with respect to the first portion.

5. The choke of claim 2, wherein the elongated end portions are disposed in spaced relation.

6. The choke of claim 1, wherein each elongated end portion extends from an attaching structure a distance substantially equal to a length of the portion wound about the axis.

7. A brush card assembly for a d.c. motor comprising:

at least one choke comprising:

a portion wound about a coil axis to define a plurality of coils including two outermost coils,

an attaching structure extending from each outermost coil and being generally transverse with respect to the coil axis, and

an elongated end portion extending from each attaching structure so as to be spaced from and generally parallel to the coil axis, the elongated end portions extending in opposite directions,

a brush card having first and second opposing sides and a pair of openings through the opposing sides, each attaching structure being disposed through an associated opening and bent so as to be adjacent to the second side, with the wound portion of the choke being disposed on the first side of the brush card, such that the choke is secured to the brush card,

a brush mounted on the brush card and in electrical connection with one of the elongated end portions, and

an electrical connector mounted on the brush card, the electrical connector having a terminal receiving the other elongated end portion of the choke.

8. The brush card assembly of claim 7, wherein a center axis of each elongated end portions is disposed on a common plane.

9. The brush card assembly of claim 8, wherein at least one of the

attaching structures includes a first portion extending transversely from an associated elongated end portion and generally along the common plane, a second portion extending downwardly and transversely with respect to the first portion, a third portion extending from the second portion so as to be generally parallel with the first portion, and a fourth portion bent to extend upwardly from the third portion to an associated outermost coil, the fourth portion being generally parallel with respect to the second portion.

10. The brush card assembly of claim 8, wherein at least one of the attaching structures includes a first portion extending downwardly and transversely with respect to an associated elongated end portion, a second portion extend transversely from the first portion and a third portion extending upwardly from the second portion to an associated outermost coil, the third portion being generally parallel with respect to the first portion.

11. The brush card assembly of claim 8, wherein the elongated end portions are disposed in spaced relation.

12. The brush card assembly of claim 7, wherein each elongated end portion extends from an attaching structure a distance substantially equal to a length of the portion wound about the axis.

13. The brush card assembly of claim 7, wherein the attaching

structures are bent so as extend away from each other at the second side of the brush card.

14. The brush card assembly of claim 7, wherein the terminal includes an opened channel and at least a portion of the elongated end portion is received in the opened channel.

15. A method of connecting a choke to a brush card assembly, the choke including a portion wound about a coil axis to define a plurality of coils including two outermost coils, an attaching structure extending from each outermost coil and being generally transverse with respect to the coil axis, and an elongated end portion extending from each attaching structure so as to be spaced from and generally parallel to the coil axis, the elongated end portions extending in opposite directions, the brush card assembly including a brush card having first and second opposing sides and a pair of openings through the opposing sides, a brush mounted on the brush card, and an electrical connector mounted on the brush card, the electrical connector having a terminal, the method including the steps of:

inserting each attaching structure through an associated opening, with the wound portion of the choke being disposed on the first side of the brush card,

bending each attaching structure so as to be adjacent to the second side, thereby securing the choke to the brush card,

directly electrically connecting one of the elongated end portions with the terminal, and

electrically connecting the other elongated end portion with the brush.

16. The method of claim 15, wherein the terminal includes an opened channel and the method includes receiving at least a portion of said one elongated end portion in the opened channel.